

### **Unintended Births in Missouri**

Unintended pregnancy continues to be a major problem in the United States both for the nation and for the individuals involved. Unintended pregnancy is associated with higher rates of inadequate prenatal care, low birth weight, and infant mortality as well as decreased life opportunities and heavier demands on public services.<sup>1</sup> Unintended pregnancies include those which occur earlier than desired and pregnancies which are neither wanted at the time of occurrence nor at some future time. Respondents in a 1996 survey indicated that approximately 38 percent of all births in Missouri were unintended.

The information for this report was acquired from the August 1995 follow-back survey of mothers having live births. A random sample of 1500 mothers having live births in August 1995 was drawn from the pool of all Missouri resident live births surviving as of January 1996. Surveys were initially mailed in February 1996 with postcard and two additional follow-up survey mailings completed. Also, telephone follow-up was attempted for the non-responders. This effort resulted in a response rate of 64.3 percent (965 of 1,500) overall with corresponding rates of 68.2 and 44.9 percent for white and black/other races respectively. Table 1 shows the highest response rates were among married women, women 25 years of age and older, women with 13 or more years of schooling, whites and St. Louis County residents. The lowest response rates were noted for women with less than 12 years of education, and blacks.

In order to improve the precision of the sample estimators, post-stratification was done using the known population distributions by race (white/unknown versus black/other races) and education (less than 12, 12, and 13 or more years) for mothers having surviving August 1995 live births. This can possibly reduce non-response bias for differences in pregnancy intendedness or the other survey items between the respondents and non-respondents in each race-education stratum.

To determine type of contraception, respondents were asked what method(s) of birth control they were using in the 12 months prior to the conception of the baby born in August 1995. These methods were broadly grouped into over-the-counter (those methods requiring no contact with medical providers, i.e. condom, foam, rhythm, withdrawal, etc.), and physician-based (oral contraceptive, diaphragm, IUD, Norplant, Depo Provera). Respondents were then asked if they had stopped all contraception prior to pregnancy, and if they had stopped, whether they had stopped in order to conceive. Respondents were then asked to indicate their attitude toward pregnancy just prior to their pregnancy - wanted pregnancy at an earlier time as well as at that time, wanted pregnancy at that time, did not want pregnancy at that time but sometime in the future, or did not want to become pregnant at that time or any time in the future. These responses were collapsed into intended (wanted pregnancy at an earlier time as well as at that time plus pregnancy wanted at that time) and unintended (did not want pregnancy at that time but sometime in the future and did not want pregnancy at that time or any time in the future).

Table 2 presents the results of intention status-by selected characteristics. A majority of the births to unmarried women, women under the age of 20, women with less than 12 years of education, women who smoke during pregnancy, women who received Medicaid during their pregnancy and blacks were unintended. These groups of women also had lower response rates to the survey. Although the rate of unintended births is lower among certain groups of women (married women, women 25-34 years of age, women with 13 or more years of education), it is important to note that even among the groups with the lowest rate of unintended births, nearly one-quarter are not intended at the time of conception. The rate of unintended births is also higher among women who give birth to a low birth weight (<5.5 lbs.) infant. The relationship between unintended births and low birth weight is mitigated by controlling for race and Medicaid status.

The next table examines contraception use and intentionality. As Table 3 indicates the majority of women who have unintended births have used contraception in the year prior to the time of conception. The percent of women having unintended births is lower among women using physician-based contraceptives rather than over-the-counter contraceptives. However, the lowest percent of unintended births is among women using no contraception. This apparent contradiction is explained by the next part of the table which looks at intention status for those who stopped using all contraceptive methods. Of those women who indicated that they stopped using all birth control methods, three quarters indicated that they stopped because they wanted to become pregnant. Of these ninety-three percent indicated that they wanted a child at the time they became pregnant or had desired a child at an earlier time as well as at the time of conception. Not too unexpectedly, 83 percent of those who indicated they had not stopped contraception indicated that their births were unintended. The category of those who indicated that they had not stopped using contraception suggests the need for increased educational efforts on consistency in contraception.

The final comparison in Table 3 is between intention-status as measured by the use of vital record information and intention status as measured by the survey questions. There is a high degree of congruity but also some discrepancy. The vital record definition of unintended assumes that all births to females less than 18, out-of-wedlock births to women with less than a college education, and births within a year of a previous birth are unintended. Approximately 70 percent of both the intended and the unintended according to the vital records

definition correlate with the corresponding survey results (intended vital records = intended survey). The lack of complete correspondence indicate the reality that all assumptions have exceptions and the difficulty of determining intention-status by a survey after the birth has occurred. The difficulty in attempting to measure intention-status is further indicated by the variance found by different studies such as the Missouri Maternal and Infant Health Survey<sup>2</sup> and an analysis of Medicaid risk appraisals.

The Missouri Maternal and Infant Health Survey (MMIHS) covering births from December 1989-March 1991 found that over fifty-one percent of all births were unintended and that for blacks over three-fourths were unintended. The MMIHS and the August 95 follow-back survey used the same question to inquire about intention but the two studies not only were conducted in different time periods but also employed slightly different methodologies. The MMIHS interviewed some of the respondents in the hospital immediately after birth and thus had a higher response rates for blacks and women with less than a high school education. In addition an intensive follow-up was conducted for those subjects contacted by mail. The infant feeding survey was a sample of all births at one point in time with limited follow-up.

The risk appraisal for Medicaid asks of pregnant clients whether the pregnancy was intended or unintended, and if unintended, whether she was using or not using birth control. Seventy-six percent of the Medicaid clients matched to 1995 births indicated that their pregnancies were unintended compared to the sixty percent unintended found among Medicaid respondents to the infant feeding survey. The difference between these two results for a similar population (August 95 births versus all 1995 births for risk appraised mothers receiving Medicaid) indicate some of the problems with determining intention status. Intention was ascertained through different questions and at different times (after the birth versus during the pregnancy).

In this report we examined the data from a 1996 survey of mothers indicating that 38 percent of August 1995 births resulted from unintended pregnancies despite the use of contraception. The data from this study confirmed previous findings identifying those women at highest risk of unintended pregnancy (unmarried women, women under the age of 20, women with less than a high school education, poor women and black women). Nevertheless, even among those groups of women with the lowest risk for unintended pregnancy (married women, women 25-34, college-educated women) nearly a quarter of the pregnancies were unintended. This study hints at the complexity of the problem since the majority of women with unintended pregnancies report using contraception in the year prior to conception although nearly half had stopped using birth control prior to becoming pregnant. Further research is needed to clarify the conditions under which women do not want to become pregnant but do not consistently use contraception.

Data from the 1996 survey was also compared to other sources of information on pregnancy intention. Both the MMHIS and the 1995 Medicaid study of risk appraised women found higher rates of unintended pregnancy (51 percent and 76 percent respectively). As mentioned the MMHIS had a higher response rate from high risk groups and the Medicaid data was acquired during the pregnancy not after the birth. The differences in the studies illustrate a constant problem with health surveys: 1) those individuals with the problems you are interested in studying are the least likely to respond and 2) attitudes toward the event of interest (i.e. pregnancy) may change as the process continues. Despite the differences in overall rates all studies present the same relationships and indicate that unintended pregnancy continues to be an important problem for residents of Missouri.

1 Institute of Medicine. The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families. Washington, D.C. 1995.

2The Missouri Maternal and Infant Health Survey a joint project between the National Institute of Child Health and Human Development and the Missouri Department of Health to examine factors related to the prevention and subsequent health care needs of very low birth weight infants. See "Preliminary Results from the VLBW Study", Missouri Monthly Vital Statistics, State Center for Health Statistics 28:3 (May, 1994).

**Table 1**

**Response Rate by Selected Characteristics: Missouri August 1995 Live Birth Follow-Back Survey**

	Number	<i>Response</i> Percent	<i>Response</i> Rate
<i>Marital Status</i>			
Not Married	241	25.0	49.6
Married	724	75.0	71.4
<i>Age</i>			
<20	106	10.9	53.5
20-24	244	25.3	55.4
25-34	506	52.4	70.0

35 and older	109	11.3	78.4
Education			
Less than 12	128	13.2	46.7
12	335	34.7	62.4
13 or more	495	51.3	73.2
Race			
White	854	88.5	68.2
Black	100	10.4	44.4
All Other	9	0.9	45.0
Resident County			
St. Louis City	72	7.5	54.6
St. Louis County	173	17.9	69.8
Jackson	114	11.8	58.2
Rest of Missouri	606	62.8	65.6
Total	965	100.0	64.3

**Table 2**

Intention Status\* of Pregnancy by Selected Characteristics: Missouri August 1995 Live Birth Follow-Back Survey

	<i>Intended</i>		<i>Unintended</i>		Unknown			<i>Weighted</i>
Marital Status	Percent	95% CI	Percent	95%CI	Percent	95%CI	N	
Not Married	25.9	(20.7-31.1)	69.2	(63.7-74.7)	4.9	(2.3-7.4)	1841	
Married	71.9	(68.974.9)	24.8	(21.9-27.7)	3.3	(2.1-4.5)	4412	
Age								
Less than20	25.6	(17.8-33.4)	67.3	(58.9-75.7)	7.2	(2.6-11.8)	878	
20-24	49.3	(43.5-55.1)	49.5	(43.7-55.3)	1.3	(0.0-2.6)	1636	
25-34	71.4	(67.8-75.0)	25.6	(22.1-29.1)	3.1	(1.7-4.5)	3089	
35 and over	63.7	(55.5-71.9)	27.3	(19.7-34.9)	9.0	(4.1-13.9)	649	
Education								
Less than 12	34.0	(26.2-41.7)	59.6	(51.6-67.6)	6.4	(2.4-10.4)	1189	
12	53.0	(48.1-57.9)	42.3	(37.447.2)	4.7	(2.6-6.8)	2208	
13 or more	72.6	(69.0-76.2)	25.4	(21.9-28.9)	2.0	(0.8-3.1)	2856	
Smoking During Pregnancy								
Smoker	46.6	(39.553.7)	51.2	(44.158.3)	2.2	(0.14.3)	1120	
Non Smoker	60.9	(57.864.0)	34.9	(31.937.9)	4.2	(2.95.5)	5082	
Medicaid Status During Pregnancy								
Medicaid	36.7	(31.6-41.7)	59.9	(54.8-65.0)	3.3	(1.4-5.2)	2281	
Non Medicaid	71.7	(68.5-74.9)	24.4	(35.5-42.5)	3.9	(2.5-5.3)	3780	
<i>Low Birth Weight Birth</i>								
Low Birth Weight	50.6	(38.7-62.5)	49.4	(37.561.3)	0.0		415	
Not Low Birth Weight	58.9	(56.0-61.8)	37.0	(34.139.9)	4.1	(2.9-5.3)	5835	

Race							
Black	33.2	(24.5-41.9)	59.5	(50.4-68.6)	7.2	(2.4-12.0)	921
			34.1	58.4			
			(55.5-61.3)				
Total	62.7	(59.7-65.6)	37.9	(32.0-37.8)	3.2	(2.1-4.3)	5331
			(35.1-40.7)				
			(2.7-4.9)				
			6253				

\*Intended births included births to women who responded that they wanted a child at the time they became pregnant or that they wanted a child at an earlier time as well as at the time they became pregnant; unintended births were not wanted at the time the woman became pregnant or at any time in the future.

**Table 3**

Intention Status\* of Pregnancy by Contraceptive Use: Missouri August 1995 Live Birth Follow-Back Survey

<i>Type of Contraception</i>	<i>Intended</i>		<i>Unintended</i>		<i>Unknown</i>		<i>Weighted N</i>
	<i>Percent</i>	<i>95% CI</i>	<i>Percent</i>	<i>95% CI</i>	<i>Percent</i>	<i>95%CI</i>	
<i>Before Pregnancy</i>							
Over -the counter <sup>1</sup>	51.4	(48.5-54.3)	45.0	(42.1-47.9)	3.6	(2.5-4.7)	2646
Physician-based <sup>2</sup>	60.2	(57.4-63.0)	38.8	(36.0-41.6)	1.0	(0.4-1.5)	2586
None	67.9	(65.2-70.6)	28.8	(26.2-31.4)	3.3	(2.3-4.3)	1609
<i>Contraception Status Before Pregnancy</i>							
Stopped contraception	75.3	(72.8-77.8)	23.7	(21.2-26.2)	1.0	(0.4-1.6)	4571
Wanted to become pregnant	93.5	(91.6-94.6)	6.1	(4.7-7.5)		(0.0-0.8)	3446
Not stopped	12.0	(10.1-13.9)	83.3	(81.1-85.5)	4.6	(3.4-5.8)	1443
<i>Vital Records Definition of Intention<sup>3</sup></i>							
Intended	72.3	(69.7-74.9)	24.2	(21.7-26.7)	3.5	(2.4-4.6)	4375
Unintended	25.8	(23.3-28.3)	69.7	(67.0-72.4)	4.4	(3.2-5.6)	1878
Total	58.4	(55.5-61.3)	37.9	(35.1-40.7)	3.8	(2.7-4.9)	6253

\*Intended births included births to women who responded that they wanted a child at the time they became pregnant

or that they wanted a child at an earlier time as well as at the time they became pregnant; unintended births were not

wanted at the time the woman became pregnant or at any time in the future.

1 Multiple methods may have been selected but were predominantly methods which did not require contact with medical

provider such as condoms, foam, rhythm, withdrawal.

2 Multiple methods may have been selected but were predominantly methods which required a prescription by a medical provider (oral contraceptive, diaphragm, IUD, Norplant or Depo Provera).

3 Unintended included births to females less than 18, short spacing between this birth and previous birth (12 months or

less), and out-of-wedlock births to women with less than a college education.

## Provisional Vital Statistics for October 1997

Live births decreased sharply in October as 5,920 Missouri babies were born compared with 7,858 one year earlier. Irregular reporting is the primary reason for this sharp decrease.

Cumulative births for the 10- and 12-month periods ending with October also show decreases. For January-October, births decreased by 1.4 percent from 63,081 to 62,233.

**Deaths decreased slightly in October as 4,385 Missourians died compared with 4,599 in October 1996. However, cumulative deaths for the 10- and 12-month periods ending with October show slight increases.**

The **Natural increase** for Missouri in October was 1,535 (5,920 births minus 4,385 deaths). Cumulative figures for the 10- and 12-month periods ending with October both show substantial reductions in natural increases.

**Marriages increased for all three time periods shown below, while dissolutions of marriage** increased slightly in October, but decreased for the cumulative time periods ending with October.

**Infant deaths increased slightly for all three time periods shown below. The January-October infant death rate increased from 7.4 to 7.8 per 1,000 live births.**

### PROVISIONAL RESIDENT VITAL STATISTICS FOR THE STATE OF MISSOURI

Item	July				Jan. July cumulative				12 months ending with July				
	Number		Rate*		Number		Rate*		Number		Rate*		
	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997	1995	1996	1997
<b>Live Births</b>	7,858	5,920	17.3	13.4	63,081	62,233	14.1	13.9	74,549	71,695	13.9	14.0	13.3
Deaths	4,599	4,385	10.1	9.9	45,266	45,650	10.1	10.2	54,254	54,477	10.1	10.2	10.1
Natural increase	3,259	1,535	7.2	3.5	17,815	16,583	4.0	3.7	20,295	17,218	3.8	3.8	3.2
Marriages	4,209	3,971	9.3	9.0	38,140	37,067	8.5	8.3	44,421	43,400	8.5	8.3	8.1
Dissolutions	2,190	2,214	4.8	5.0	21,310	20,759	4.8	4.6	25,453	24,887	4.9	4.8	4.6
Infant deaths	54	58	6.9	9.8	468	483	7.4	7.8	564	581	7.7	7.6	8.1
Population base (in thousands)	...	...	5,359	5,395	...	...	5,359	5,395	...	...	5,312	5,343	5,389

\*Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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